

## CLAIMS

1. A method of manufacturing glass base material, which includes; forming porous glass base material which includes a dopant added core part, and an inner clad layer surrounding said core part and having a lower refractive index than the core part; transforming said porous glass base material into clear glass to be provided as a core ingot; heating and elongating said core ingot in the axial direction in an electric furnace to make a core rod; and forming an outer clad layer surrounding said core rod.
  2. The method of manufacturing glass base material according to claim 1, wherein the transformed core ingot has the 70 mm or more outer diameter.
  3. The method of manufacturing glass base material according to claim 1 or 2, wherein in the core ingot or the core rod, the ratio of the outer diameter of the core part d to the outer diameter of the inner clad layer D, or  $d/D$  is smaller than 0.25.
  4. The method of manufacturing glass base material according to claim 1 or 2, wherein the ratio of the outer diameter of the core part d to the outer diameter of the inner clad layer D, or  $d/D$  is smaller than 0.21.
  5. The method of manufacturing glass base material according to one out of claims 1-4, wherein the thickness of the inner clad layer of the core rod is equal to or larger than 1 mm.
  6. The method of manufacturing glass base material according to one out of claims 1-5, wherein for a heat insulator used for the electric furnace is comprised of carbon material containing 810 ppm or less ash.
  7. The method of manufacturing glass base material according to one out of claims 1-6, wherein glass tube is welded on the outer surface of the core rod elongated in the electric furnace.
  8. The method of manufacturing glass base material according to one out of claims 1-7, wherein glass fine particles are deposited on the outer surface of the core rod, which is elongated in the electric furnace, to form a porous glass body, before the porous glass body is transformed into clear glass.
  9. The method of manufacturing glass base material according to one out of claims 1-8, wherein the outer surface of the core rod is etched with fluorine, then glass fine particles are deposited to form a porous glass body, and the porous glass body is transformed into clear glass.
  10. Glass base material made with the method of manufacturing glass base material according to one out of claims 1-9. Abstract
- Provided is the method of manufacturing glass base material having excellent optical

properties, in which the core ingot is easily processed with heat, and includes small amount of OH component, which increases the transmission loss. The method of manufacturing glass base material includes; forming porous glass base material which includes a dopant added core part, a (inner) clad layer surrounding the core part and having a lower refractive index than the core part; transforming the porous glass base material into clear glass to be provided as a core ingot; heating and elongating the core ingot in the axial direction in an electric furnace to make a core rod; and forming an outer clad layer surrounding the core rod.